

+3
1 CACCGGCGAA GGAGGATCGA ATTCCTGCAG CCCGCTATCT GCAGGCCGCC ACCATGGCCG M A D
GTGGCCGCTT CCTCCTAGCT TAAGGACGTC GGGCGATAGA CGTCCGGCGG TGGTACCGGC
+3 D Y L I S G G T S Y V P D D G L T A Q Q L
61 ACTACCTGAT TAGTGGGGGC ACGTCCTACG TGCCAGACGA CGGACTCACA GCACAGCAGC
TGATGGACTA ATCACCCCGG TGCAGGATGC ACGGTCTGCT GCCTGAGTGT CGTGTCTGTCG
+3 L F N C G D G L T Y N D F L I L P G Y I D
121 TCTTCAACTG CGGAGACGGC CTCACCTACA ATGACTTTCT CATTCTCCCT GGGTACATCG
AGAAGTTGAC GCCTCTGCCG GAGTGGATGT TACTGAAAGA GTAAGAGGGA CCCATGTAGC
+3 D F T A D Q V D L T S A L T K K I T L K T
181 ACTTCACTGC AGACCAGGTG GACCTGACTT CTGCTCTGAC CAAGAAAATC ACTCTTAAGA
TGAAGTGACG TCTGGTCCAC CTGGACTGAA GACGAGACTG GTTCTTTTAG TGAGAATTCT
~~+3 T P L P S S P M B T V T E A G M A I A M A~~
241 CCCCCTGGT TTCCTCTCCC ATGGACACAG TCACAGAGGC TGGGATGGCC ATAGCAATGG
GGGGTGACCA AAGGAGAGGG TACCTGTGTC AGTGTCTCCG ACCCTACCGG TATCGTTACC
+3 A L T G G I G F I H H N C T P E F Q A N E
301 CGCTTACAGG CGGTATTGGC TTCATCCACC ACAACTGTAC ACCTGAATTC CAGGCCAATG
GCGAATGTCC GCCATAACCG AAGTAGGTGG TGTGACATG TGGACTTAAG GTCCGGTTAC
+3 E V R K V K K Y E Q G F I T D P V V L S P
361 AAGTTCGGAA AGTGAAGAAA TATGAACAGG GATTCATCAC AGACCCTGTG GTCCTCAGCC
TTCAAGCCTT TCACTTCTTT ATACTTGTCC CTAAGTAGTG TCTGGGACAC CAGGAGTCGG
+3 P K D R V R D V F E A K A R H G F C G I P
421 CCAAGGATCG CGTGCGGGAT GTTTTGTAGG CCAAGGCCCG GCATGGTTTC TGCGGTATCC
GGTTCCTAGC GCACGCCCTA CAAAACTCC GGTTCGGGGC CGTACCAAAG ACGCCATAGG
+3 P I T D T G R M G S R L V G I I S S R D I
481 CAATCACAGA CACAGGCCGG ATGGGGAGCC GCTTGGTGGG CATCATCTCC TCCAGGGACA
GTTAGTGTCT GTGTCCGGCC TACCCCTCGG CGAACCACCC GTAGTAGAGG AGGTCCCTGT
+3 I D F L K E E E H D C F L E E I M T K R E
541 TTGATTTTCT CAAAGAGGAG GAACATGACT GTTTCTTGGA AGAGATAATG ACAAAGAGGG
AACTAAAAGA GTTTCTCCTC CTTGTACTGA CAAAGAACCT TCTCTATTAC TGTTTCTCCC
+3 E D L V V A P A G I T L K E A N E I L Q R
601 AAGACTTGGT GGTAGCCCCT GCAGGCATCA CACTGAAGGA GGCAAATGAA ATTCTGCAGC
TTCTGAACCA CCATCGGGGA CGTCCGTAGT GTGACTTCCT CCGTTTACTT TAAGACGTCG
+3 R S K K G K L P I V N E D D E L V A I I A
661 GCAGCAAGAA GGGAAAGTTG CCCATTGTAA ATGAAGATGA TGAGCTTGTG GCCATCATTG
CGTCGTTCTT CCCTTTCAAC GGGTAACATT TACTTCTACT ACTCGAACAC CGGTAGTAAC
+3 A R T D L K K N R D Y P L A S K D A K K Q
721 CCCGGACAGA CCTGAACAAC AATCCGGACT ACCCACTAGC CTCCAAAGAT GCCAAGAAAC
GGGCCTGTCT GGAATTCTTC TTAGCCCTGA TGGGTGATCG GAGGTTTCTA CGGTTCTTTG
+3 Q L L C G A A I G T H E D D K Y R L D L L
781 AGCTGCTGTG TGGGGCAGCC ATTGGCACTC ATGAGGATGA CAAGTATAGG CTGGACTTGC
TCGACGACAC ACCCCGTCGG TAACCGTGAG TACTCCTACT GTTCATATCC GACCTGAACG
+3 L A Q A G V D V V V L D S S Q G N S I F Q
841 TCGCCCAGGC TGGTGTGGAT GTAGTGGTTT TGGACTCTTC CCAGGGAAAT TCCATCTTCC
AGCGGGTCCG ACCACACCTA CATACCAAA ACCTGAGAAG GGTCCCTTTA AGGTAGAAGG
+3 Q I N M I K Y I K D K Y P N L Q V I G G N
901 AGATCAATAT GATCAAGTAC ATCAAAGACA AATACCCTAA TCTCCAAGTC ATTGGAGGCA
TCTAGTTATA CTAGTTCATG TAGTTTCTGT TTATGGGATT AGAGGTTTCAG TAACCTCCGT

FIG. 1A

+3	N	V	V	T	A	A	Q	A	K	N	L	I	D	A	G	V	D	A	L	R	V
961	ATGTGGTCAC	TGCTGCCCAG	GCCAAGAACC	TCATTGATGC	AGGTGTGGAT	GCCCTGCGGG															
	TACACCAGTG	ACGACGGGTC	CGGTTCTTGG	AGTAACTACG	TCCACACCTA	CGGGACGCCC															
+3	V	G	M	G	S	G	S	I	C	I	I	Q	E	V	L	A	C	G	R	P	Q
1021	TGGGCATGGG	AAGTGGCTCC	ATCTGCATTA	TCCAGGAAGT	GCTGGCCTGT	GGGCGGCCCC															
	ACCCGTACCC	TTCACCGAGG	TAGACGTAAT	AGGTCCTTCA	CGACCGGACA	CCCGCCGGGG															
+3	Q	A	T	A	V	Y	K	V	Y	E	Y	A	R	R	F	G	V	P	V	I	A
1081	AAGCAACAGC	AGTGTACAAG	GTGTATGAGT	ATGCACGGCG	CTTTGGTGTT	CCGGTCATTG															
	TTCGTTGTCT	TCACATGTTC	CACATACTCA	TACGTGCCGC	GAAACCACAA	GGCCAGTAAC															
+3	A	D	G	G	I	Q	N	V	G	H	I	A	K	A	L	A	L	G	A	S	T
1141	CTGATGGAGG	AATCCAAAAT	GTGGGTCATA	TTGCGAAAGC	CTTGGCCCTT	GGGGCCTCCA															
	GACTACCTCC	TTAGGTTTTA	CACCCAGTAT	AACGCTTTTC	GAACCGGGAA	CCCCGGAGGT															
+3	T	V	M	M	G	S	L	L	A	A	T	T	E	A	P	G	E	Y	F	F	S
1201	CAGTCATGAT	GGGCTCTCTC	CTGGCTGCCA	CCACTGAGGC	CCCTGGTGAA	TACTTCTTTT															
	GTCAGTACTA	CCCGAGAGAG	GACCGACGGT	GGTGACTCCG	GGGACCACTT	ATGAAGAAAA															
+3	S	D	G	I	R	L	K	K	Y	R	G	M	G	S	L	D	A	M	D	K	H
1261	CCGATGGGAT	CCGGCTAAAG	AAATATCGCG	GTATGGGTTC	TCTCGATGCC	ATGGACAAGC															
	GGCTACCCTA	GGCCGATTTC	TTTATAGCGC	CATACCCAAG	AGAGCTACGG	TACCTGTTCG															
+3	H	L	S	S	Q	N	R	Y	F	S	E	A	D	K	I	K	V	A	Q	G	V
1321	ACCTCAGCAG	CCAGAACAGA	TATTTCAAGT	AAGCTGACAA	AATCAAAGTG	GCCCAGGGAG															
	TGGAGTCGTC	GGTCTTGTCT	ATAAAGTCAC	TTGACTGTTC	TTAGTTTCAC	CGGGTCCCTC															
+3	V	S	G	A	V	Q	D	K	G	S	I	H	K	F	V	P	Y	L	I	A	G
1381	TGTCTGGTGC	TGTGCAGGAC	AAAGGGTCAA	TCCACAAATT	TGTCCCTTAC	CTGATTGCTG															
	ACAGACCACG	ACACGTCCTG	TTTCCCAGTT	AGGTGTTTAA	ACAGGGAATG	GAATAACGAC															
+3	G	I	Q	H	S	C	Q	D	I	G	A	K	S	L	T	Q	V	R	A	M	M
1441	GCATCCAACA	CTCATGCCAG	GACATTGGTG	CCAAGAGCTT	GACCCAAGTC	CGAGCCATGA															
	CGTAGGTTGT	GAGTACGGTC	CTGTAACCAC	GGTTCTCGAA	CTGGGTTTCAG	GCTCGGTACT															
+3	M	Y	S	G	E	L	K	F	E	K	R	T	S	S	A	Q	V	E	G	G	V
1501	TGTACTCTGG	GGAGCTTAAG	TTTGAGAAGA	GAACGTCCTC	AGCCCAGGTG	GAAGGTGGCG															
	ACATGAGACC	CCTCGAATTC	AAACTCTTCT	CTTGCAGGAG	TCGGGTCCAC	CTTCCACCGC															
+3	V	H	S	L	H	S	Y	E	K	R	L	F									
1561	TCCATAGCCT	CCATTTCGTAT	GAGAAGCGGC	TTTTCTGATC	TAGCTCGACA	TGATAAGATA															
	AGGTATCGGA	GGTAAGCATA	CTCTTCGCCG	AAAAGACTAG	ATCGAGCTGT	ACTATTCTAT															
1621	CATTGATGAG	TTTGACAAAA	CCACAACCTAG	AATGCAGTGA	AAAAAATGCT	TTATTTGTGA															
	GTAACCTACTC	AAACCTGTTT	GGTGTTGATC	TTACGTCACT	TTTTTTTACGA	AATAAACACT															
1681	AATTTGTGAT	GCTATTGCTT	TATTTGTGAA	ATTTGTGATG	CTATTGCTTT	ATTTGTAACC															
	TTAAACACTA	CGATAACGAA	ATAAACACTT	TAAACACTAC	GATAACGAAA	TAAACATTGG															
1741	ATTATAAGCT	GCAATAAACA	AGTTAACAAC	AACAATTGCA	TTCAATTTTAT	GTTTCAGGTT															
	TAATATTTCGA	CGTTATTTGT	TCAATTGTTG	TTGTTAACGT	AAGTAAAATA	CAAAGTCCAA															
1801	CAGGGGGAGG	TGTGGGAGGT	TTTTTAAAGC	AAGTAAAACC	TCTACAAATG	TGGTAGATCA															
	GTCCCCCTCC	ACACCCTCCA	AAAAATTTTC	TTCATTTTGG	AGATGTTTAC	ACCATCTAGT															
1861	TTTAAATGTT	AGCGAAGAAC	ATGTGAGCAA	AAGGCCAGCA	AAAGGCCAGG	AACCGTAAAA															
	AAATTTACAA	TCGCTTCTTG	TACACTCGTT	TTCCGGTCGT	TTTCCGGTCC	TTGGCATTTT															
1921	AGGCCGCGTT	GCTGGCGTTT	TTCCATAGGC	TCCGCCCCCC	TGACGAGCAT	CACAAAAATC															
	TCCGGCGCAA	CGACCGCAAA	AAGGTATCCG	AGGCGGGGGG	ACTGCTCGTA	GTGTTTTTAG															
1981	GACGCTCAAG	TCAGAGGTGG	CGAAACCCGA	CAGGACTATA	AAGATAACCAG	GCGTTTCCCC															
	CTGCGAGTTC	AGTCTCCACC	GCTTTGGGCT	GTCCTGATAT	TTCTATGGTC	CGCAAAGGGG															

FIG. 1B

2041 CTGGAAGCTC CCTCGTGCGC TCTCCTGTTC CGACCCTGCC GCTTACCGGA TACCTGTCCG
GACCTTCGAG GGAGCACGCG AGAGGACAAG GCTGGGACGG CGAATGGCCT ATGGACAGGC
2101 CCTTTCTCCC TTCGGGAAGC GTGGCGCTTT CTCAATGCTC ACGCTGTAGG TATCTCAGTT
GGAAAGAGGG AAGCCCTTCG CACCGCGAAA GAGTTACGAG TGCACATCC ATAGAGTCAA
2161 CGGTGTAGGT CGTTCGCTCC AAGCTGGGCT GTGTGCACGA ACCCCCCGTT CAGCCCGACC
GCCACATCCA GCAAGCGAGG TTCGACCCGA CACACGTGCT TGGGGGGCAA GTCGGGCTGG
2221 GCTGCGCCTT ATCCGGTAAC TATCGTCTTG AGTCCAACCC GGTAAGACAC GACTTATCGC
CGACGCGGAA TAGGCCATTG ATAGCAGAAC TCAGGTTGGG CCATTCTGTG CTGAATAGCG
2281 CACTGGCAGC AGCCACTGGT AACAGGATTA GCAGAGCGAG GTATGTAGGC GGTGCTACAG
GTGACCGTCG TCGGTGACCA TTGTCCTAAT CGTCTCGCTC CATACATCCG CCACGATGTC
2341 AGTTCTTGAA GTGGTGGCCT AACTACGGCT ACACTAGAAG AACAGTATTT GGTATCTGCG
~~TCAAGAACTT CACCACCGGA TTGATGCCCA TCTCATCTTC TTCTCATAAA GCATAGACCG~~
2401 CTCTGCTGAA GCCAGTTACC TTCGGAAAAA GAGTTGGTAG CTCTTGATCC GGCAAACAAA
GAGACGACTT CGGTCAATGG AAGCCTTTTT CTCAACCATC GAGAACTAGG CCGTTTGTTT
2461 CCACCGCTGG TAGCGGTGGT TTTTTTGTTT GCAAGCAGCA GATTACGCGC AGAAAAAAG
GGTGGCGACC ATCGCCACCA AAAAAACAAA CGTTCGTCGT CTAATGCGCG TCTTTTTTTC
2521 GATCTCAAGA AGATCCTTTG ATCTTTTCTA CGGGGTCTGA CGCTCAGTGG AACGAAAAC
CTAGAGTTCT TCTAGGAAAC TAGAAAAGAT GCCCCAGACT GCGAGTCACC TTGCTTTTGA
2581 CACGTTAAGG GATTTTGGTC ATGGCTAGTT AATTAAGCTG CAATAAACAA TCATTATTTT
GTGCAATTCC CTAAAACAG TACCGATCAA TTAATTGAC GTTATTTGTT AGTAATAAAA
2641 CATTGGATCT GTGTGTTGGT TTTTGTGTG GGCTTGGGGG AGGGGGAGGC CAGAATGACT
GTAACCTAGA CACACAACCA AAAAACACAC CCGAACCCCC TCCCCCTCCG GTCTTACTGA
2701 CCAAGAGCTA CAGGAAGGCA GGTCAGAGAC CCCACTGGAC AAACAGTGGC TGGACTCTGC
GGTTCTCGAT GTCCTTCCGT CCAGTCTCTG GGGTGACCTG TTTGTCACCG ACCTGAGACG
2761 ACCATAACAC ACAATCAACA GGGGAGTGAG CTGGATCGAG CTAGAGTCCG TTACATAACT
TGGTATTGTG TGTTAGTTGT CCCCTCACTC GACCTAGCTC GATCTCAGGC AATGTATTGA
2821 TACGGTAAAT GGCCCGCCTG GCTGACCGCC CAACGACCCC CGCCCATTTGA CGTCAATAAT
ATGCCATTTA CCGGGCGGAC CGACTGGCGG GTTGCTGGGG GCGGGTAACT GCAGTTATTA
2881 GACGTATGTT CCCATAGTAA CGCCAATAGG GACTTTCCAT TGACGTCAAT GGGTGGAGTA
CTGCATACAA GGGTATCATT GCGGTTATCC CTGAAAGGTA ACTGCAGTTA CCCACCTCAT
2941 TTTACGGTAA ACTGCCCACT TGGCAGTACA TCAAGTGTAT CATATGCCAA GTACGCCCCC
AAATGCCATT TGACGGGTGA ACCGTCATGT AGTTCACATA GTATACGGTT CATGCGGGGG
3001 TATTGACGTC AATGACGGTA AATGGCCCCG CTGGCATTAT GCCCAGTACA TGACCTTATG
ATAACTGCAG TTAAGTCCAT TTACCGGGCG GACCGTAATA CGGGTCATGT ACTGGAATAC
3061 GGACTTTCCT ACTTGGCAGT ACATCTACGT ATTAGTCATC GCTATTACCA TGGTGATGCG
CCTGAAAGGA TGAACCGTCA TGTAAGATGCA TAATCAGTAG CGATAATGGT ACCACTACGC
3121 GTTTTGGCAG TACATCAATG GGCGTGGATA GCGGTTTGAC TCACGGGGAT TTCCAAGTCT
CAAAACCGTC ATGTAGTTAC CCGCACCTAT CGCCAAACTG AGTGCCCTTA AAGGTTTACA
3181 CCACCCCAT TACGTCAATG GGAGTTTGT TTGGCACCAA AATCAACGGG ACTTTCCAAA
GGTGGGGTAA CTGCAGTTAC CCTCAAACAA AACCCTGGTT TTAGTTGCC TGAAGGTTT
3241 ATGTCGTAAC AACTCCGCCC CATTGACGCA AATGGGCGGT AGGCGTGTAC GGTGGGAGGT
TACAGCATTG TTGAGGCGGG GTAAGTGCCT TTACCCGCCA TCCGCACATG CCACCCTCCA
3301 CTATATAAGC AGAGCTCGTT TAGTGAACCG TCAGATCGCC TGGAGACGCC ATCCACGCTG
GATATATTCG TCTCGAGCAA ATCACTTGGC AGTCTAGCGG ACCTCTGCGG TAGGTGCGAC
3361 TTTTGACCTC CATAGAAGAC ACCGGGACCG ATCCAGCCTC CGCGGCCGGG AACGGTGCAT
AAAAGTGGAG GTATCTTCTG TGGCCCTGGC TAGGTGCGAG GCGCCGGCCC TTGCCACGTA

FIG. 1C

3421	TGGAACGCGG	ATTCCCCGTG	CCAAGAGTGA	CGTAAGTACC	GCCTATAGAG	TCTATAGGCC
	ACCTTGCGCC	TAAGGGGCAC	GGTTCTCACT	GCATTCATGG	CGGATATCTC	AGATATCCGG
3481	CACCCCCTTG	GCTTCTTATG	CATGCTATAC	TGTTTTTTGGC	TTGGGGTCTA	TACACCCCCG
	GTGGGGGAAC	CGAAGAATAC	GTACGATATG	ACAAAAACCG	AACCCCAGAT	ATGTGGGGGC
3541	CTTCCTCATG	TTATAGGTGA	TGGTATAGCT	TAGCCTATAG	GTGTGGGTTA	TTGACCATTA
	GAAGGAGTAC	AATATCCACT	ACCATATCGA	ATCGGATATC	CACACCCAAT	AACTGGTAAT
3601	TTGACCACTC	CCCTATTGGT	GACGATACTT	TCCATTACTA	ATCCATAACA	TGGCTCTTTG
	AACTGGTGAG	GGGATAACCA	CTGCTATGAA	AGGTAATGAT	TAGGTATTGT	ACCGAGAAAC
3661	CCACAACCTC	CTTTATTGGC	TATATGCCAA	TACACTGTCC	TTCAGAGACT	GACACGGACT
	GGTGTTGAGA	GAAATAACCG	ATATACGGTT	ATGTGACAGG	AAGTCTCTGA	CTGTGCCTGA
3721	CTGTATTTTT	ACAGGATGGG	GTCTCATTTA	TTATTTACAA	ATTCACATAT	ACAACACCAC
	GACATAAAAA	TGTCCTACCC	CAGAGTAAAT	AATAAATGTT	TAAGTGTATA	TGTTGTGGTG
3781	CGTCCCCAGT	GCCCCGAGTT	TTTATTAAAC	ATAACGTCCG	ATCTCCAGCC	CAATCTCCGG
	GCAGGGGTCA	CGGGCGTCAA	AAATAATTTG	TATTGCACCC	TAGAGGTGCG	CTTAGAGCCC
3841	TACGTGTTCC	GGACATGGGC	TCTTCTCCGG	TAGCGGCGGA	GCTTCTACAT	CCGAGCCCTG
	ATGCACAAGG	CCTGTACCCG	AGAAGAGGCC	ATCGCCGCCT	CGAAGATGTA	GGCTCGGGAC
3901	CTCCCATGCC	TCCAGCGACT	CATGGTGCCT	CGGCAGCTCC	TTGCTCCTAA	CAGTGGAGGC
	GAGGGTACGG	AGGTCGCTGA	GTACCAGCGA	GCCGTCGAGG	AACGAGGATT	GTCACCTCCG
3961	CAGACTTAGG	CACAGCACGA	TGCCCACCAC	CACCAGTGTG	CCGCACAAGG	CCGTGGCGGT
	GTCTGAATCC	GTGTCGTGCT	ACGGGTGGTG	GTGGTCACAC	GGCGTGTTC	GGCACCGCCA
4021	AGGGTATGTG	TCTGAAAATG	AGCTCGGGGA	GCGGGCTTGC	ACCGCTGACG	CATTTGGAAG
	TCCCATACAC	AGACTTTTAC	TCGAGCCCCT	CGCCCGAACG	TGGCGACTGC	GTAAACCTTC
4081	ACTTAAGGCA	GCGGCAGAAG	AAGATGCAGG	CAGCTGAGTT	GTTGTGTTCT	GATAAGAGTC
	TGAATTCCGT	CGCCGTCTTC	TTCTACGTCC	GTCGACTCAA	CAACACAAGA	CTATTCTCAG
4141	AGAGGTAAC	CCCGTTGCGG	TGCTGTTAAC	GGTGGAGGGC	AGTGTAGTCT	GAGCAGTACT
	TCTCCATTGA	GGGCAACGCC	ACGACAATTG	CCACCTCCCG	TCACATCAGA	CTCGTCATGA
4201	CGTTGCTGCC	GCGCGCGCCA	CCAGACATAA	TAGCTGACAG	ACTAACAGAC	TGTTCCTTTC
	GCAACGACGG	GCGCGCGCGT	GGTCTGTATT	ATCGACTGTC	TGATTGTCTG	ACAAGGAAAG
				MCS		

4261	CATGGGTCTT	TTCTGCAGTC	ACCCGGGGGA	TCCTTCGAAC	GTAGCTCTAG	ATTGAGTCGA
	GTACCCAGAA	AAGACGTCAG	TGGGCCCCCT	AGGAAGCTTG	CATCGAGATC	TAATCAGCT
4321	CGTTACTGGC	CGAAGCCGCT	TGGAATAAGG	CCGGTGTGCG	TTTGTCTATA	TGTTATTTTC
	GCAATGACCG	GCTTCGGCGA	ACCTTATTCC	GGCCACACGC	AAACAGATAT	ACAATAAAAG
4381	CACCATATTG	CCGTCTTTTG	GCAATGTGAG	GGCCCGGAAA	CCTGGCCCTG	TCTTCTTGAC
	GTGGTATAAC	GGCAGAAAAC	CGTTACACTC	CCGGGCCTTT	GGACCGGGAC	AGAAGAACTG
4441	GAGCATTCCT	AGGGGTCTTT	CCCCTCTCGC	CAAAGGAATG	CAAGGTCTGT	TGAATGTCGT
	CTCGTAAGGA	TCCCCAGAAA	GGGGAGAGCG	GTTTCCTTAC	GTTCCAGACA	ACTTACAGCA
4501	GAAGGAAGCA	GTTCTCTGCG	AAGCTTCTTG	AAGACAAACA	ACGTCTGTAG	CGACCCTTTG
	CTTCCTTCGT	CAAGGAGACC	TTCGAAGAAC	TTCTGTTTGT	TGCAGACATC	GCTGGGAAAC
4561	CAGGCAGCGG	AACCCCCCAC	CTGGCGACAG	GTGCCTCTGC	GGCCAAAAGC	CACGTGTATA
	GTCCGTCGCC	TTGGGGGGTG	GACCGCTGTC	CACGGAGACG	CCGGTTTTTCG	GTGCACATAT
4621	AGATACACCT	GCAAAGGCGG	CACAACCCCA	GTGCCACGTT	GTGAGTTGGA	TAGTTGTGGA
	TCTATGTGGA	CGTTTCCGCC	GTGTTGGGGT	CACGGTGCAA	CACTCAACCT	ATCAACACCT
4681	AAGAGTCAAA	TGGCTCTCCT	CAAGCGTATT	CAACAAGGGG	CTGAAGGATG	CCCAGAAGGT
	TTCTCAGTTT	ACCGAGAGGA	GTTTCGATTA	GTTGTTCCCC	GACTTCCTAC	GGGTCTTCCA
4741	ACCCCATTTG	ATGGGATCTG	ATCTGGGGCC	TCGGTGCACA	TGCTTTACAT	GTGTTTAGTC
	TGGGGTAACA	TACCTAGAC	TAGACCCCGG	AGCCACGTGT	ACGAAATGTA	CACAAATCAG

FIG. 1D

4801 GAGGTTAAAA AAACGTCTAG GCGGGGGGCTT GGTGCCCCCTG CACCAAAAGG AAACCTTTTGT
CTCCAATTTT TTTGCAGATC CGGGGGGGCTT GGTGCCCCCTG CACCAAAAGG AAACCTTTTGT
4861 ACGATAATAC CATGGGTAAAG TGATATCTAC TAGTTGTGAC CGGCGCCTAG TGTTGACAAT
TGCTATTATG GTACCCATTC ATCATAGATG ATCAACACTG GCCGCGGATC ACAACTGTTA
4921 TAATCATCGG CATAGTATAT CCGCATAGTA TAATACGACT CACTATAGGA GGGCCACCAT
ATTAGTAGCC GTATCATATA GCCGTATCAT ATTATGCTGA GTGATATCCT CCCGGTGGTA
4981 GTCGACTACT AACCTTCTTC TCTTTCCTAC AGCTGAGATC ACCGGTAGGA GGGCCATCAT
CAGCTGATGA TTGGAAGAAG AGAAAGGATG TCGACTCTAG TGGCCATCCT CCCGGTAGTA
5041 GAAAAAGCCT GAACTCACCG CGACGTCTGT CGCGAAGTTT CTGATCGAAA AGTTCGACAG
CTTTTTTCGGA CTTGAGTGGC GCTGCAGACA GCGCTTCAAA GACTAGCTTT TCAAGCTGTC
5101 CGTCTCCGAC CTGATGCAGC TCTCGGAGGG CGAAGAATCT CGTGCTTTCA GCTTCGATGT
~~GCAGAGGCTC CACTACCTTC AGAGGCTTCC GCTTCTTAGA GCACGAAAGT CGAAGCTACA~~
5161 AGGAGGGCGT GGATATGTCC TGCGGGTAAA TAGCTGCGCC GATGGTTTCT ACAAAGATCG
TCCTCCCGCA CCTATACAGG ACGCCCATT TATCGACGCG CTACCAAAGA TGTTTCTAGC
5221 TTATGTTTAT CGGCACTTTG CATCGGCCGC GCTCCCGATT CCGGAAGTGC TTGACATTGG
AATACAAATA GCCGTGAAAC GTAGCCGGCG CGAGGGCTAA GGCCTTCACG AACTGTAAAC
5281 GGAATTCAGC GAGAGCCTGA CCTATTGCAT CTCCCGCCGT GCACAGGGTG TCACGTTGCA
CCTTAAGTCG CTCTCGGACT GGATAACGTA GAGGGCGGCA CGTGTCCAC AGTGCAACGT
5341 AGACCTGCCT GAAACCGAAC TGCCCGCTGT TCTGCAACCC GTCGCGGAGC TCATGGATGC
TCTGGACGGA CTTTGGCTTG ACGGGCGACA AGACGTTGGG CAGCGCCTCG AGTACCTACG
5401 GATCGCTGCG GCCGATCTTA GCCAGACGAG CGGGTTCGGC CCATTCGGAC CGCAAGGAAT
CTAGCGACGC CGGCTAGAAT CGGTCTGCTC GCCCAAGCCG GGTAAGCCTG GCGTTCCTTA
5461 CGGTCAATAC ACTACATGGC GTGATTTTAT ATGCGCGATT GCTGATCCCC ATGTGTATCA
GCCAGTTATG TGATGTACCG CACTAAAGTA TACGCGCTAA CGACTAGGGG TACACATAGT
5521 CTGGCAAACGT GTGATGGACG ACACCGTCAG TGCGTCCGTC GCGCAGGCTC TCGATGAGCT
GACCGTTTGA CACTACCTGC TGTGGCAGTC ACGCAGGCAG CCGGTCCGAG AGCTACTCGA
5581 GATGCTTTGG GCCGAGGACT GCGCCGAAGT CCGGCACCTC GTGCACGCGG ATTTCCGCTC
CTACGAAACC CGGCTCCTGA CCGGGCTTCA GGCCGTGGAG CACGTGCGCC TAAAGCCGAG
5641 CAACAATGTC CTGACGGACA ATGGCCGCAT AACAGCGGTC ATTGACTGGA GCGAGGCGAT
GTTGTTACAG GACTGCCTGT TACCGGCGTA TTGTCGCCAG TAACTGACCT CGCTCCGCTA
5701 GTTCGGGGAT TCCCAATACG AGGTCGCCAA CATCTTCTTC TGGAGGCCGT GGTGCTTG
CAAGCCCCTA AGGGTTATGC TCCAGCGGTT GTAGAAGAAC ACCTCCGGCA CCAACCGAAC
5761 TATGGAGCAG CAGACGCGCT ACTTCGAGCG GAGGCATCCG GAGCTTGACG GATCGCCGCG
ATACCTCGTC GTCTGCGCGA TGAAGCTCGC CTCCGTAGGC CTCGAACGTC CTAGCGGCGC
5821 GCTCCGGGCG TATATGCTCC GCATTGGTCT TGACCAACTC TATCAGAGCT TGTTGACGG
CGAGGCCCCG ATATACGAGG CGTAACCAGA ACTGGTTGAG ATAGTCTCGA ACCAACTGCC
5881 CAATTTTCGAT GATGCAGCTT GGGCGCAGGG TCGATGCGAC GCAATCGTCC GATCCGGAGC
GTTAAAGCTA CTACGTCGAA CCCGCGTCCC AGCTACGCTG CGTTAGCAGG CTAGGCCTCG
5941 CGGGACTGTC GGGCGTACAC AAATCGCCCC CAGAAGCGCG GCCGTCTGGA CCGATGGCTG
GCCCTGACAG CCCGCATGTG TTTAGCGGGC GTCTTCGCGC CCGCAGACCT GGCTACCGAC
6001 TGTAGAAGTC GCGTCTGCGT TCGACCAGGC TGCGCGTTCT CGCGGCCATA GCAACCGACG
ACATCTTCAG CGCAGACGCA AGCTGGTCCG ACGCGCAAGA GCGCCGGTAT CGTTGGCTGC
6061 TACGGCGTTG CGCCCTCGCC GGCAGCAAGA AGCCACGGA GTCCGCCCCG AGCAGAAAAT
ATGCCGCAAC GCGGGAGCGG CCGTCGTTCT TCGGTGCCTT CAGGCGGGCC TCGTCTTTTA
6121 GCCCACGCTA CTGCGGGTTT ATATAGACGG TCCCCACGGG ATGGGGAAAA CCACCACCAC
CGGGTGCGAT GACGCCCAA TATATCTGCC AGGGGTGCC TACCCCTTTT GGTGGTGGTG

FIG. 1E

6181	GCAACTGCTG	GTGGCCCTGG	GTTTCGCGCGA	CGATATCGTC	TACGTACCCG	AGCCGATGAC
	CGTTGACGAC	CACCGGGACC	CAAGCGCGCT	GCTATAGCAG	ATGCATGGGC	TCGGCTACTG
6241	TTACTGGCGG	GTGCTGGGGG	CTTCCGAGAC	AATCGCGAAC	ATCTACACCA	CACAACACCG
	AATGACCGCC	CACGACCCCC	GAAGGCTCTG	TTAGCGCTTG	TAGATGTGGT	GTGTTGTGGC
6301	CCTCGACCAG	GGTGAGATAT	CGGCCGGGGA	CGCGGCGGTG	GTAATGACAA	GCGCCCAGAT
	GGAGCTGGTC	CCACTCTATA	GCCGGCCCCCT	GCGCCGCCAC	CATTACTGTT	CGCGGGTCTA
6361	AACAATGGGC	ATGCCTTATG	CCGTGACCGA	CGCCGTTCTG	GCTCCTCATA	TCGGGGGGGA
	TTGTTACCCG	TACGGAATAC	GGCACTGGCT	GCGGCAAGAC	CGAGGAGTAT	AGCCCCCCT
6421	GGCTGGGAGC	TCACATGCCC	CGCCCCCGGC	CCTCACCCTC	ATCTTCGACC	GCCATCCCAT
	CCGACCCTCG	AGTGTACGGG	GCGGGGGCCG	GGAGTGGGAG	TAGAAGCTGG	CGGTAGGGTA
6481	CGCCGCCCTC	CTGTGCTACC	CGGCCGCGCG	GTACCTTATG	GGCAGCATGA	CCCCCAGGC
	CGCCGCCCTC	CTGTGCTACC	CGGCCGCGCG	GTACCTTATG	GGCAGCATGA	CCCCCAGGC
6541	CGTGCTGGCG	TTCGTGGCCC	TCATCCC GCC	GACCTTGCCC	GGCACCAACA	TCGTGCTTGG
	GCACGACCGC	AAGCACCGGG	AGTAGGGCGG	CTGGAACGGG	CCGTGGTTGT	AGCACGAACC
6601	GGCCCTTCCG	GAGGACAGAC	ACATCGACCG	CCTGGCCAAA	CGCCAGCGCC	CCGGCGAGCG
	CCGGGAAGGC	CTCCTGTCTG	TGTAGCTGGC	GGACCGGTTT	GCGGTCGCGG	GGCCGCTCGC
6661	GCTGGACCTG	GCTATGCTGG	CTGCGATTCT	CCGCGTTTAC	GGGCTACTTG	CCAATACGGT
	CGACCTGGAC	CGATACGACC	GACGCTAAGC	GGCGCAAATG	CCCGATGAAC	GGTTATGCCA
6721	GCGGTATCTG	CAGTGC GGCG	GGTCGTGGCG	GGAGGACTGG	GGACAGCTTT	CGGGGACGGC
	CGCCATAGAC	GTCACGCCGC	CCAGCACCGC	CCTCCTGACC	CCTGTGCAAA	GCCCCTGCCG
6781	CGTGCCGCCC	CAGGGTGCCG	AGCCCCAGAG	CAACGCGGGC	CCACGACCCC	ATACGGGGGA
	GCACGGCGGG	GTCCCACGGC	TCGGGGTCTC	GTTGCGCCCC	GGTGCTGGGG	TATAGCCCCT
6841	CACGTTATTT	ACCCTGTTTC	GGGCCCCCGA	GTTGCTGGCC	CCCAACGGCG	ACCTGTATAA
	GTGCAATAAA	TGGGACAAAG	CCCGGGGGCT	CAACGACCGG	GGGTGCGCGC	TGGACATATT
6901	CGTGTTTGCC	TGGGCCTTGG	ACGTCTTGGC	CAAACGCCTC	CGTTCCATGC	ACGTCTTTAT
	GCACAAACGG	ACCCGGAACC	TGCAGAACCG	GTTTGCGGAG	GCAAGGTACG	TGCAGAAATA
6961	CCTGGATTAC	GACCAATCGC	CCGCCGGCTG	CCGGGACGCC	CTGCTGCAAC	TTACCTCCGG
	GGACCTAATG	CTGGTTAGCG	GGCGGCCGAC	GGCCCTGCGG	GACGACGTTG	AATGGAGGCC
7021	GATGGTCCAG	ACCCACGTCA	CCACCCCCGG	CTCCATACCG	ACGATATGCG	ACCTGGCGCG
	CTACCAGGTC	TGGGTGCAGT	GGTGGGGGCC	GAGGTATGGC	TGCTATACGC	TGGACCGCGC
7081	CACGTTTGCC	CGGGAGATGG	GGGAGGCTAA	CTGAGTCGAG	AATTGCTAG	AGGGCCCTAT
	GTGCAAACGG	GCCCTCTACC	CCCTCCGATT	GA CTCAGCTC	TTAAGCGATC	TCCCGGGATA
7141	TCTATAGTGT	CACCTAAATG	CTAGAGCTCG	CTGATCAGCC	TCGACTGTGC	CTTCTAGTTG
	AGATATCACA	GTGGATTTAC	GATCTCGAGC	GACTAGTCGG	AGCTGACACG	GAAGATCAAC
7201	CCAGCCATCT	GTTGTTTGCC	CCTCCCCCGT	GCCTTCCTTG	ACCCTGGAAG	GTGCCACTCC
	GGTCGGTAGA	CAACAAACGG	GGAGGGGGCA	CGGAAGGAAC	TGGGACCTTC	CACGGTGAGG
7261	CACTGTCCTT	TCCTAATAAA	ATGAGGAAAT	TGCATCGCAT	TGTCTGAGTA	GGTGTCATTC
	GTGACAGGAA	AGGATTATTT	TACTCCTTTA	ACGTAGCGTA	ACAGACTCAT	CCACAGTAAG
7321	TATTCTGGGG	GGTGGGGTGG	GGCAGGACAG	CAAGGGGGAG	GATTGGGAAG	ACAATAGCAG
	ATAAGACCCC	CCACCCCACC	CCGTCCTGTC	GTTCCCCCTC	CTAACCCTTC	TGTTATCGTC
7381	GCATGCGCAG	GGCCCAATTG	CTCGAGCGGC	CGCAATAAAA	TATCTTTATT	TTCATTACAT
	CGTACGCGTC	CCGGGTTAAC	GAGCTCGCCG	GCGTTATTTT	ATAGAAATAA	AAGTAATGTA
7441	CTGTGTGTTG	GTTTTTTTGTG	TGAATCGTAA	CTAACATACG	CTCTCCATCA	AAACAAAACG
	GACACACAAC	CAAAAAACAC	ACTTAGCATT	GATTGTATGC	GAGAGGTAGT	TTTGTTTTGC
7501	AAACAAAACA	AACTAGCAAA	ATAGGCTGTC	CCCAGTGCAA	GTGCAGGTGC	CAGAACATTT
	TTTGTTTTGT	TTGATCGTTT	TATCCGACAG	GGGTCACGTT	CACGTCCACG	GTCTTGTAAG

FIG. 1F

Title: SELECTION SYSTEMS FOR GENETICALLY MODIFIED CELL

Applicant: JENSEN, M.

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Examiner: Unassigned

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7561 CTCTATCGAA GGATCTGCGA TCGCTCCGGT GCCCGTCAGT GGGCAGAGCG CACATCGCCC
 GAGATAGCTT CCTAGACGCT AGCGAGGCCA CGGGCAGTCA CCCGTCTCGC GTGTAGCGGG
 7621 ACAGTCCCCG AGAAGTTGGG GGGAGGGGTC GGCAATTGAA CCGGTGCCTA GAGAAGGTGG
 TGTGAGGGGC TCTTCAACCC CCCTCCCCAG CCGTTAACTT GGCCACGGAT CTCTTCCACC
 7681 CGCGGGGTAA ACTGGGAAAG TGATGTCGTG TACTGGCTCC GCCTTTTTCG CGAGGGTGGG
 GCGCCCCATT TGACCCTTTC ACTACAGCAC ATGACCGAGG CGGAAAAAGG GCTCCCACCC
 7741 GGAGAACCGT ATATAAGTGC AGTAGTCGCC GTGAACGTTC TTTTTCGCAA CGGGTTTGCC
 CCTCTTGGA TATATTCACG TCATCAGCGG CACTTGCAAG AAAAAGCGTT GCCCAAACGG
 7801 GCCAGAACAC AGCTGAAGCT TCGAGGGGCT CGCATCTCTC CTTACGCGC CCGCCGCCCT
 CGGTCTTGTC TCGACTTCGA AGCTCCCCGA GCGTAGAGAG GAAGTGCGCG GCGGCGGGA
 7861 ACCTGAGGCC GCCATCCACG CCGGTTGAGT CGCGTTCTGC CGCCTCCCGC CTGTGGTGCC
 TGGACTCCGG CCGTAGGTGC GGCCAACTCA GCGCAAGACG GCGGAGGGCG GACACCACGG
 7921 TCCTGAACTG CGTCCGCCGT CTAGGTAAGT TTAAAGCTCA GGTCGAGACC GGGCCTTTGT
 AGGACTTGAC GCAGGCGGCA GATCCATTCA AATTTTCGAGT CCAGCTCTGG CCCGGAAACA
 7981 CCGGCGCTCC CTTGGAGCCT ACCTAGACTC AGCCGGCTCT CCACGCTTTG CCTGACCCTG
 GGCCGCGAGG GAACCTCGGA TGGATCTGAG TCGGCCGAGA GGTGCGAAAC GGAAGTGGGAC
 8041 CTTGCTCAAC TCTACGTCTT TGTTTCGTTT TCTGTTCTGC GCCGTTACAG ATCCAAGCTG
 GAACGAGTTG AGATGCAGAA ACAAAGCAAA AGACAAGACG CGGCAATGTC TAGGTTTCGAC
 8101 TGACCGGCGC CTACGTAAGT GATATCTACT AGATTTATCA AAAAGAGTGT TGACTTCTGA
 ACTGGCCGCG GATGCATTCA CTATAGATGA TCTAAATAGT TTTTCTCACA ACTGAACACT
 8161 GCGCTCACAA TTGATACTTA GATTCATCGA GAGGGACACG TCGACTACTA ACCTTCTTCT
 CGCGAGTGTT AACTATGAAT CTAAGTAGCT CTCCCTGTGC AGCTGATGAT TGGAAGAAGA
 8221 CTTTCCTACA GCTGAGAT
 GAAAGGATGT CGACTCTA

FIG. 1G